



UNITED STATES  
 NUCLEAR REGULATORY COMMISSION  
 REGION II  
 101 MARIETTA STREET, N.W.  
 ATLANTA, GEORGIA 30303

Report Nos. 50-259/82-32, 50-260/82-32, and 50-296/82-32

Licensee: Tennessee Valley Authority  
 500A Chestnut Street  
 Chattanooga, TN 37401

Facility Name: Browns Ferry

Docket Nos. 50-259, 50-260, and 50-296

License Nos. DPR-33, DPR-52, and DPR-68

Inspection at Browns Ferry site near Decatur, Alabama

Inspector: *J. J. Blake*  
 for W. P. Kleinsorge

9/30/82  
 Date Signed

Approved by: *J. J. Blake*  
 J. J. Blake, Section Chief  
 Engineering Inspection Branch  
 Division of Engineering and Technical Programs

9/30/82  
 Date Signed

SUMMARY

Inspection on September 14-17, 1982

Areas Inspected

This routine, unannounced inspection involved 30 inspector-hours on site in the areas of inservice inspection - review of procedures (Unit 2), inservice inspection - observation of work and work activities (Unit 2), and inspector followup items.

Results

No violations or deviations were identified.

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

\*G. T. Jones, Power Plant Superintendent

Other licensee employees contacted included construction craftsmen, technicians, security force members, and office personnel.

#### NRC Resident Inspector

\*J. W. Chase, Senior Resident Inspector

\*G. G. Paulk, Resident Inspector

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on September 17, 1982, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspector findings listed below. No dissenting comments were received from the licensee.

Unresolved Item 260/82-32-01: "Arc Strikes" - paragraph 7b(1)

Unresolved Item 260/82-32-02: "Non-Retrievable Transducer Certification" - paragraph 7b(2)

Unresolved Item 260/82-32-03: "Couplant ph Determination" - paragraph 7b(3)

Inspector Followup Item 259, 260, 296/82-32-04: "ISI Record Inconsistencies" - paragraph 7b(4)

### 3. Licensee Action on Previous Enforcement Matters

Not inspected.

### 4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. New unresolved items identified during this inspection are discussed in paragraph nos. 7b(1), 7b(2), and 7b(3).

## 5. Independent Inspection Effort

The inspector conducted a general inspection of turbine building and the Unit 2 reactor building to observe modification progress and activities such as material handling and control, housekeeping and storage.

Within the areas examined no violations or deviations were noted.

## 6. Inservice Inspection - Review of Procedures (Unit 2) (73052B)

The inspector reviewed the ISI procedures indicated below to determine whether the procedures were consistent with regulatory requirements and licensee commitments. The applicable code for "Cycle 2" inspections is the ASME Boiler and Pressure, Section XI with the 1974 Edition, S75 Addenda being used for extent of inspection, and 1977 Edition, S78 Addenda being used for technique and evaluation.

a. The following procedures were reviewed in the areas of procedure approval and qualification of NDE personnel:

- (1) N-UT-17, Rev. 4, "Ultrasonic Examination of Nuclear Power Plant Piping"
- (2) N-PT-1, Rev. 4, "Liquid Penetrant Examination Using the Color Contrast Solvent Removable Method"
- (3) N-MT-1 Rev. 2 "Magnetic Particle Examination of Nuclear Power Plant Components."

b. In addition to the above review, Procedure N-UT-17 was reviewed in the areas of compilation of required records and procedure technical content relative to: type of apparatus, extent of coverage including beam angles and scanning techniques, calibration requirements, search units, DAC curves, reference level for monitoring discontinuities, method of demonstrating penetration, levels for evaluation, and recording indications, and acceptance standards.

c. In addition to the review of paragraph a., Procedure N-PT-1 was reviewed in the areas of compilation of required records and technical content relative to: method consistent with ASME code, specification of brand names of penetrant materials, specification of limits for sulfur and total halogens for materials, pre-examination surface preparation, minimum drying time following surface cleaning, penetrant application and penetration time, temperature requirements, solvent removal, method of surface drying, type of developer and method of application, examination technique, technique for evaluation, acceptance standards, requalification requirements, prohibition against following color contrast examination with fluorescent examination, and examination conditions for fluorescent penetrants.

- d. In addition to the review of paragraph a., Procedure N-MT-1 was reviewed in the area of procedure technical content relative to: examination method, contrast of dry powder particle color with background and surface temperature, suspension medium and surface temperature for wet particles, viewing conditions, examination overlap and directions, pole or prod spacing, current or lifting power (yoke), and acceptance criteria.

Within the areas inspected, no violations or deviations were noted.

7. Inservice Inspection - Observation of Work and Work Activities (Unit 2) (73753B)

The inspector observed the ISI activities described below to determine whether these activities were being performed in accordance with regulatory requirements and licensee procedures. See paragraph 6 for applicable code.

- a. Personnel qualification records for three Level I and three Level II examiners were reviewed.
- b. In process ultrasonic (UT) inspection of the below listed welds was observed and compared with the requirements of procedure N-UT-17 and the code in the following areas.

<u>WELD NO.</u>	<u>DRAWING NO.</u>
DSRWC 2-4	CHM-2073C
DSRWC 2-7	CHM-2073C
DRWC 2-1A	CHM-2073C
DRWC 2-1	CHM-2073C

- Availability of and compliance with approved NDE procedures
- Use of knowledgeable NDE personnel
- Use of NDE personnel qualified in the proper level
- Recording of inspection results
- Type of apparatus used
- Extent of coverage of weldment
- Calibration requirements
- Search Units
- Beam Angles
- DAC Curves
- Reference level for monitoring discontinuities
- Method of demonstration of penetration
- Limits for evaluating and recording indications
- Recording significant indications
- Acceptance limits

- (1) With regard to the inspection above, the inspector, on September 16, 1982, was shown, by the licensee, a small pipe with an attachment or seal weld contiguous with weld DRWC-2-1A. The pipe was attached to valve 69-500. Adjacent to the seal or attachment weld, on the small pipe, were numerous arc strikes. The inspector discussed the above with the licensee. The licensee indicated that they would investigate the matter. The inspector indicated that pending NRC review of the investigation and determination of significance the above would be identified as unresolved item 260/82-32-01: "Arc Strikes".
- (2) With regard to the inspection above, on September 17, 1982, the inspector noted that the manufacturer's certification required by paragraphs 6.4 of Procedure BF-UT-17 for transducer serial no. V-7110, was not retrievable at the time of this inspection. That transducer was used to inspect the above welds. The licensee indicated that they would look further into the above. The inspector stated that pending NRC review of the above missing certificate this matter will be identified as unresolved item 260/82-32-02; "Non-Retrievable Transducer Certification".
- (3) With regard to the above inspection, the inspector noted, on September 17, 1982, that licensee had no documented determination of the ph for couplant, batch 8120, as required by paragraph 6.5 of procedure BF-UT-17. That batch of couplant was used to inspect the above welds. The licensee indicated that they would have the couplant ph determined. The inspector stated that pending NRC review of the couplant ph determination, this matter would be identified as Unresolved Item 260/82-32-03: "Couplant ph Determination".
- (4) With regard to the above inspection, the inspector on September 17, 1982, noted the following inconsistencies relating to records.
  - The rhombus block used on calibration No. C-035 is not uniquely identified as required by the "Ultrasonic Calibration Data Sheet" form.
  - D. F. Goetcheus Memo "Analysis of Calibration Block Material" of August 11, 1982, identifies the base material for calibration block BF-31-S as type 316L stainless steel. CE Power Systems letter "Calibration Blocks from Brown's Ferry Station" indicates that the molybdenum analysis for block BF-31-S is 0.08%. SA-312 requires Type 316L stainless steels to have 2.0 to 3.0% molybdenum content.

The licensee indicated that they would correct the above inconsistencies. The inspector stated that the above would be identified as inspector followup item 259, 260, 296/82-32-04: "ISI Record Inconsistencies".

Within the areas inspected, no violations or deviations were noted.

8. Inspector Followup Items

(Closed) 259, 260, 296/82-29-01: "Radiograph Procedures". This item concerns the apparent lack of knowledge, of radiography procedures, on the part of a licensee's representative, in charge of a contractor crew performing radiography. This inspector investigated and determined that the representative of the licensee was in administrative charge only, and not technical charge. Therefore, only very limited procedural knowledge of radiography was needed on his part. The inspector reviewed the radiographs made on the night in question and determined that they were consistent with the licensee's program. The inspector has no further questions.